May 7, 2001

MEMORANDUM TO: William H. Bateman, Chief
Materials and Chemical Engineering Branch
Division of Engineering

FROM: Edmund J. Sullivan, Chief ***/ra/***
Component Integrity & Chemical Engineering Section
Materials and Chemical Engineering Branch
Division of Engineering

SUBJECT: SUMMARY OF APRIL 26, 2001 MEETING WITH THE NUCLEAR ENERGY INSTITUTE REGARDING NEI 97-06 AND OTHER STEAM GENERATOR ISSUES

On April 26, 2001, staff of the Nuclear Regulatory Commission (NRC) met with representatives of the Nuclear Energy Institute (NEI) and industry at the NRC's offices in Rockville, Maryland for a working level meeting on steam generator issues. The purpose of the meeting was to discuss revisions to the NEI 97-06 Steam Generator Generic Change Package (SG-GCP), based on NRC comments on the last revision. Other topics included the industry's pressurization ramp rate study, minimum margin to burst, administrative issues, and progress on Steam Generator (SG) Action Plan items. The agenda for the meeting is provided as Attachment 1. Attachment 2 is a list of those attending the meeting.

Ted Sullivan, NRC, began the meeting with opening remarks discussing the agenda items planned for the meeting, and asked if there were any changes to the agenda. Jim Riley, NEI, distributed copies of the latest versions of the proposed SG Technical Specifications for SG Tube Integrity, Reactor Coolant System (RCS) Operational Leakage, and SG Administrative Section. These handouts are provided as Attachments 3, 4, and 5. Ted Sullivan, Emmett Murphy, and Bob Tjader, NRC, provided comments on these sections of the latest NEI 97-06 SG-GCP. A marked up version of the Technical Specification (TS) that incorporates these comments is provided in Attachment 6.

These comments dealt with resolving certain proposed changes to the SG surveillance requirements (SR) contained in Section 3.4 of the TS. Specifically discussed were SR 3.4.20.1 and 3.4.20.2. NRC noted that the proposed TS did not address the situation if a licensee discovered during plant operation that a tube had mistakenly not been plugged. During subsequent discussion, some participants remembered a condition statement that was removed during a previous revision that could potentially address this situation. Jim Riley agreed to revise the latest version to include a modified version of the condition statement.

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The staff also discussed concerns about the definition of the performance criteria in the Bases section of the document. It was suggested that the TS be revised to change the current definition which refers to the most limiting accident to stress that the 1.4 criterion applies to all postulated accidents. The staff pointed out inconsistencies with the language used in the TS Bases when compared with the NEI 97-06 document. Specifically, the staff suggested changing the term "integrity assessment" to "condition monitoring assessment" or "operational assessment," depending on the context of the change. There was also some disagreement on how "plug on detection" could be considered a subset of the depth based criterion. The staff suggested that as an alternative, the TS bases could discuss the "plug on detection" practice, consistent with industry's response to GL-97-05. The staff recommended that the TS bases contain a tie between the SG program and NEI 97-06 since the SG programs are being developed and conducted in accordance with the NEI 97-06 SG program guidelines. The staff suggested other wording changes for clarity and consistency to NEI 97-06, and these written comments are provided in the marked up revision in Attachment 6.

Helen Cothron, TVA, provided an update on the pressurization ramp rate study and followup testing recommended by the industry study (Attachment 7). Testing of simulated flaws for Arkansas Nuclear One indicated an effect of pressure ramp rate and hold time on burst pressure. Industry's review of industry analytical models and data bases indicated no significant effect. For situations when the effect could not be discounted (e.g., long, deep cracks), industry guidance was developed to control ramp rates and hold times. TVA funded some followup testing, and Ms. Cothron presented some preliminary results. Their results indicate that the pressurization effects are due to the presence of foil used to control the expected leakage from the tests. She indicated that current in situ tests procedures are not affected, because no one currently uses foil. They will be updating the industry study to include these test results, and will make a presentation on the results this summer.

Because of the differences between industry guidelines and the standards that the staff uses to review industry-submitted alternate repair criteria, industry representatives had previously discussed with the staff concerns that related to modifying the NEI 97-06 SG-GCP given that NRC may elect to review or inspect operational assessments. In response to this concern, Emmett Murphy developed a policy-type statement, possibly to be contained in the safety evaluation on the SG-GCP. He also provided an update on the status of the statement, that it was still in the management review process at the NRC. This statement articulates when and under what special circumstances the staff would elect to perform a more in-depth review of operational assessments as opposed to the normal mode of gathering information on examinations performed and on conditioning monitoring assessments.

Jim Riley, NEI, also discussed the industry's progress on SG Action Plan (SGAP) items (Attachment 8). He discussed the criteria for scheduling the plan items, and discussed the status of a few of the items. The position of the industry is that the existing industry guidance for operational leakage limits is adequate, based on the approval of the proposed TS in the generic license change package. Similarly, the industry believes that approving the proposed TS will provide a mechanism for updating the technical requirements to reflect current knowledge. However, they plan to issue interim guidance by August 31, 2001, to address

licensee actions upon discovering a new degradation mechanism during their SG examinations. For other issues, such as data quality for new tubing, use of noise minimization techniques, use of realistic flaws, and use of computers in data screening, industry believes that the existing guidance is adequate. Mr. Riley requested that the staff review this handout and provide comments to NEI.

Regarding the protocol on addressing technical issues, the staff indicated that suggested words to address cases where an issue requires an urgent response are contained in the summary of the April 6, 2001, telephone conference with NEI.

The staff provided comments on a subject of concern that arose from considering information provided during the outage phone calls. Specifically, the staff is concerned that in situ testing is not being performed at a number of plants and the staff does not understand the basis, in some cases, for not performing the testing. The staff stated that this has potential implications for condition monitoring, which is a key element to the NEI 97-06 revised SG framework. The staff recommended that this matter be discussed further during the next phone call and that it be the subject of a separate meeting in the near future.

The NRC staff and NEI agreed to hold a teleconference May 7, 2001, for further discussion of the issues presented at this meeting. Items for the next meeting include further discussion of the revisions to the TS, the status of the NRC operational assessment policy statement, NEI SGAP items, and in-situ pressure testing conducted during spring outages with respect to considering NDE uncertainty in the selection of candidate tubes.

Attachments: As stated

cc: Jim Riley, NEI

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cc: Jim Riley, NEI

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